

## Lesson Plan on Sampling (Mathematics)

Time: 80 minutes

Class: S4-6

Setting: Cooperative learning with Ss being grouped in fours in general

Objectives:

1. To introduce the concept of a sample and sampling
2. To realize the importance of representativeness of a sample
3. To transfer the knowledge of sampling to daily life

Time	Activity	Remarks
5 min	Advance organizer <ul style="list-style-type: none"> <li>● T clearly briefs Ss on objectives of the lesson.</li> <li>● T briefs Ss on the planned progress of the lesson.</li> </ul>	If time is allowed, KWL can be used.
10 min	Set <ul style="list-style-type: none"> <li>● T defines the terms “population” and “census” to Ss.</li> <li>● T asks Ss the probability of conduct a census.</li> <li>● T defines the terms “sample” and “sample statistics/survey” to Ss.</li> </ul>	
15 min	Group Discussion <ul style="list-style-type: none"> <li>● Ss are asked how <u>a sample can really ensure the estimation of all the parameters of the population.</u></li> <li>● T elicits each group their ideas on a perfect sample that can represent the population.</li> </ul>	T facilitates the discussion of each group
25 min	Development <ul style="list-style-type: none"> <li>● T converges Ss’ answers on a perfect sample as <u>how the sample is selected.</u></li> <li>● T summarizes Ss’ answers and introduces the term “random sampling”.</li> <li>● T lists some requirements for a sample being able to represent the population. For example,               <ol style="list-style-type: none"> <li>1. Each sampling unit has the same chance of being selected.</li> <li>2. Sample size is large enough.</li> <li>3. Each item in the sample is independent.</li> </ol> </li> <li>● T gives several examples to Ss for determining the randomness of the sample or asks them to suggest a method of sampling.</li> </ul>	T may introduce more ideas on sampling such as stratified sampling, systematic sampling and cluster sampling.
20 min	Transfer of knowledge to daily life <ul style="list-style-type: none"> <li>● T gives Ss a fact sheet of how the Chief Executive of Hong Kong was elected in 2012.</li> <li>● Ss are asked to discuss on the representativeness of Election Committee.</li> </ul>	Fact Sheet of How the Chief Executive of Hong Kong was elected in 2012 is used.

	<ul style="list-style-type: none"> <li>● Ss are asked to suggest a reform of the Election Committee so that the committee can more represent the 3.5 million registered voters in Hong Kong.</li> <li>● T elicits Ss their opinions on the representativeness of Election Committee and their suggestion of reform.</li> </ul>	T may challenge Ss on their suggestions.
5 min	<p>Summing up the lesson</p> <ul style="list-style-type: none"> <li>● T asks Ss what they have learned in the lesson.</li> <li>● T elicits Ss for how a sample being random enough to represent a population.</li> </ul>	Metacognitive teaching is employed.

# Fact Sheet

## How the Chief Executive of Hong Kong was elected in 2012

### Who voted for Hong Kong's chief?

How 689 people out of a population of 7 million voted for the city's Chief Executive in 2012

#### In 2012

1 Hong Kong had **3.5 million** registered voters

2 Of which **249,499** had voting rights to form the 1,200-member **Election Committee**. These are mostly representatives of various business and industry sectors

3 They were subdivided into four uneven voting blocks

Including representatives of:

4 Who voted-in the Committee

5 Who voted for...

#### Leung Chun-ying

Gained 689 out of 1,050 valid votes on March 25, 2012

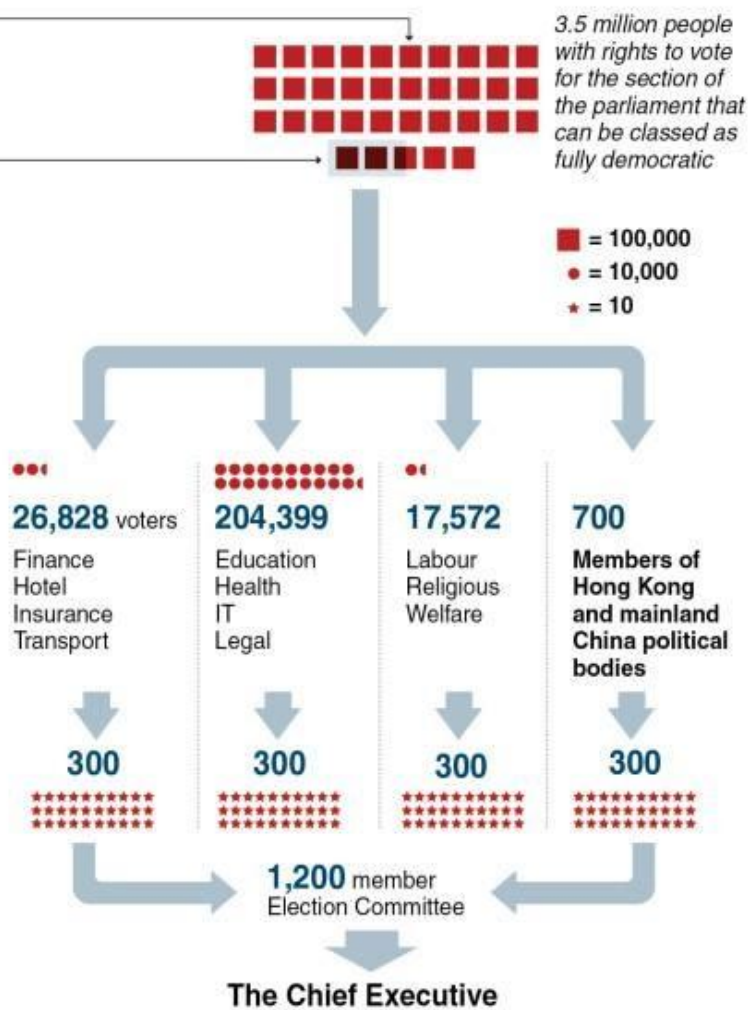
Born in Hong Kong in 1954



▶ Self-made millionaire property consultant

▶ Former secretary general of the Basic Law Consultative Committee, tasked with drafting Hong Kong's constitution after its return to Chinese rule

▶ Former convenor of the Executive Council, the city's top policy-making body



Source: HK govt AFP

Note: The diagram is captured from the Internet.